J. (c)

April 21, 1976 4410

Mr. Theodore J. Harris
Harris and Associates, Inc.
2718 North Meade Street
Appleton, Wisconsin 54911

Dear Mr. Harris:

Re: Lehrer Landfill

The Department of Natural Resources' Solid Waste Management Section has received and reviewed the preliminary hydrogeologic feasibility study and engineering plan submitted March 12, 1976 for the Lehrer landfill. Pursuant to our review of that information and in conjunction with the Department's March 15, 1976 letter to you on the Lehrer facility, the following points must be taken into consideration when completing the final hydrogeologic feasibility study and preliminary engineering design:

1. The additional geotechnical work as proposed in the Soil Testing Services of Wisconsin's March 4, 1976 letter, must be completed. This shall include at a minimum:

a. Three shallow ground water table observation wells at the approximate location of the well nests at B-1, B-3, B-5.

b. A leachate monitoring well installed in the old refuse area.

c. The baseline ground water quality for each well shall be established by sampling for the following parameters on a one time basis: pH, alkalinity/acidity ($CaCO_3$), hardness ($CaCO_3$), dissolved solids, COD, Ca, Mg, Na, Fe, SO_4, Cl. Thereafter, on a quarterly basis, the following parameters are to be monitored: pH, alkalinity/acidity ($CaCO_3$), hardness, Na, Cl^-, $SO_4^=$, conductivity, Fe.

d. Ground water levels should continue to be monitored on a bi-weekly basis to verify stabilization and the direction of ground water flow.

This information is to be analyzed and presented in the final hydrogeologic feasibility study and preliminary engineering plans due May 28, 1976.

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2. The general concept of the proposed base grades, top grades, and final cover appear to be adequate for this facility.

3. A leachate collection system will be required at this facility. The complexity and intent of this system will be decided once the additional geotechnical work in ground water monitoring is completed and the shallow ground water flow system better defined. It may vary in concept at this time from a 15' x 15'-five foot deep sump with a riser to an entire perimeter leachate collection system with several risers to the surface. The leachate monitoring well proposed to be installed in the 3/4/76 Soils Testing Services of Wisconsin letter should be installed and monitored. The final decision on complexity and need for this leachate collection system will be held in abeyance until the above information is collected. In the meantime, additional excavations will not be required to have a leachate collection system installed at the base, but may have to have an extraction system installed depending upon the results from the leachate monitoring well, ground water monitoring program, and additional shallow well installations.

4. The private wells in the area of the site were defined at a March 1, 1976 meeting with you, yet they were not shown in the March 12, 1976 submittal. These must be indicated and any well construction information supplied to the Department in the final feasibility study and preliminary engineering design.

5. A detailed materials balance must be performed for this facility. Specifically, it was noted in your preliminary engineering design that estimates of air volume were given. These were said not to include the final cover or topsoil for this facility. The final submittal must include a materials balance which estimates, based on an assumed cover to refuse ratio, the amount of solid waste and earth to be utilized at this facility. The materials balance must define excess earth and specifically on the engineering plans in a sequencial manner, define the location of cover stock piles and topsoil stock piles in order to better define the earth materials handling procedures at this facility during the construction of the nine phase operation. It is extremely important, as Mr. Lehrer, I am sure, will not wish to double handle material if at all possible.

6. All drainage ditches around the facility must have line and grade control on them with slopes specified and erosion control must be specified for those ditches where calculations show erosion to be a potential problem. Specifically, all drainage ditches interim or permanent must be shown on the sequencial development plan for this facility. A typical cell filling sequence must be shown to delineate how surface water and leachate will be controlled within the cell. It is stated that berms will be utilized inside each one of the cells for surface water and leachate control and this should be shown on the typical cell filling plan. Since most of the cells are very similar in excavation depth as well as final height, a typical cell construction will be adequate. All permanent features, as permanent drainage ditches, etc., must be shown on the plat plan and the construction time specified.

Also, at least one sequencing plan delineating what the fill will look like after the completion of cell 4 or 5 should be drawn up. This should delineate cells 1-4 to be at final grades and show how surface water will be handled, access will be obtained, etc.

7. Any proposed fencing, either interim or long term for windblown paper control or access control, should be delineated on the sequencing plan. Time of construction should be defined.

8. If the berm on the north end of the property is to be maintained intact for any length of time, it is recommended that the outside slopes of the berm be graded to 3 to 1, and seeded for control of erosion and aesthetic purposes. Consideration should be given to utilizing cover stock piles in the most logical manner and perhaps creating screening berms with them. This consideration should be given not only on the north end of the property, but along County Highway CE.

9. Cross sections at 100 or 200 foot intervals both north-south and east-west which delineate all elevations specifically of drainage ditches, base grades, intrench berms, surface water diversion berms, etc., must be drawn. These will allow for the ease of construction and field checking this facility when constructed. In conjunction with that, the base grade map which was plate 4 of the March 12, 1976 submittal should specify all grades in the four corners of each trenched area and show slopes between those points. That will delineate the high point and the low point within each trench.

10. A detailed operational plan should be drawn up explaining the plan sheets and sequencing as well as construction needs and timing. This operational plan should discuss wet weather, cold weather, and dry weather operations, as well as any special procedures to be followed throughout the life of the fill.

In summary, the Lehrer facility, as defined to date appears to have excellent potential for continued operation as a solid waste disposal facility. Nothing to date indicates that this facility will not be approved once adequate final engineering plans are received and reviewed by the Department. It should be realized, however, that certain design modifications may be necessary as a leachate or ground water collection system, dependent upon the additional geotechnical work, ground water monitoring, and water level monitoring to be done for the final hydrogeologic feasibility study. As you are aware, Mr. Lehrer is under a time schedule which has recently been revamped to complete the reinvestigation in re-engineering of this facility by August 1, 1976. This schedule is layed out in Order No. 2A-75-1045A which you will receive a copy of shortly. I am sure with continued effort on yours and Mr. Lehrer's part, as well as the Department's, this project will be operating under an approved plan by late summer/late fall, 1976.

I would like to take this opportunity to thank you for your efforts thus far in the project, and should you have any questions on this matter, please feel free to contact either Mr. Gary Kulibert or Mr. Robert T. Glebs at 414-494-9601 or 608-266-0468, respectively.

Sincerely,
Bureau of Air & Solid Waste Management

Robert T. Glebs

Robert T. Glebs, Engineer
Solid Waste Management Section

Earl P. Updike

Earl P. Updike, Hydrogeologist
Solid Waste Management Section

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cc: G. Kulibert - Lake Michigan District
Timothy Dahlstrand - Soil Testing Services of Wisconsin, Inc.
James Lehrer - Lehrer Sanitary Landfill